NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T

(pursuant to NAC 445A.236)

Permittee Name

Lyon County Utilities District
Rolling "A" Water Reclamation Facility
P. O. Box 1699
Dayton, Nevada 89403

Permit Number

NEV2000500

Location

The Rolling "A" Water Reclamation Facility is located on the Rolling "A" Ranch south of U.S. Highway 50 and Ft. Churchill Road at 499 River Road, in Dayton Valley, Dayton, Nevada in the NW1/4 of the SW1/4 Section 34, Township 17N., Range 22E. MDB&M. Latitude: 39◦17'34"N, Longitude: 119◦30'13"W.

General

This permit modification is being made to increase the design flow of the facility expansion from 0.125 MGD to 0.250 MGD. A lined 160' by 360' 1.32 acre pond is utilized for the storage of sludge generated by the Rolling "A" activated sludge process plant, and in the near future, sludge from the South Dayton Facility will also be stored in this lined pond per an approved Sludge Management Plan for the facilities. Three additional monitoring wells have been installed south and east of the facility to monitor groundwater qualtiy.

The Rolling "A" Water Reclamation Facility (RAWRF) is designed to utilize an extended aeration process with biological nutrient removal to treat domestic sewage originating from residential dwellings in the Dayton Valley service area. The treated effluent will be disinfected following treatment to achieve effluent standards, before disposal in rapid infiltration basins. Future reuse is planned on the adjoining River Partner agricultural land and at the North Plant reuse site (NEV87022); reuse is also approved for dust control and for construction uses.

The plant is currently approved to treat and discharge an average of 0.125 million gallons per day (MGD) per 30-day average and 0.375 MGD Daily Maximum of treated wastewater. This modification will approve a flow increase to 0.250 MGD per 30-day average and 0.750 MGD for a daily maximum. Disposal is limited to the current 0.125 MGD until plant facility expansions have been constructed to treat and discharge the 0.250 MGD flows.

Groundwater monitoring is conducted quarterly to monitor for any possible impacts. Potential environmental impacts resulting from the operation of this treatment plant include the discharge of elevated levels of chlorides and dissolved solids to groundwaters of the State. Since the plant is designed to denitrify and disinfect, there should be no impacts to groundwater from nitrate or pathogens.

To reduce the potential for impact, the Permittee conducts monthly sampling of the RAWRF effluent to ensure concentrations of the listed parameters meet the required effluent standards. The Permittee is also required to maintain records, document and report the following:

- volume of sludge stored in on-site facilities;
- volume of sludge landfilled or put to beneficial use at permitted sites

These records will be available for inspection by the Division at any time.

Treatment Process:

Influent sewage is measured by a mag meter in a vault immediately upstream of the headworks facility. Domestic sewage (raw wastewater) then enters the headworks channel where screenings are removed via a "Muffin Monster" comminutor and screw auger pump; the headworks also has a bypass channel with a bar screen installed to screen influent in case mechanical repairs are necessary on the equipment. There is also a diversion gate structure downstream of the screen that allows influent from the bypass channel to be directed to the sludge storage pond (bypassing the SBRs). Screened influent then flows by gravity to the two sequencing batch reactors (SBR's) where a valve controls which basin the influent is directed for treatment. This expansion will add one large SBR basin with equivalent size and capacity of the two existing basins.

Wastewater flows by gravity into one of the basin's pre-reactor tank where influent is uniformly fed into the reactor basin. Coarse bubble diffusers provide aeration for the extended aeration in the SBR basins where the activated sludge process treats the wastewater using biological nutrient removal. After the aeration process is completed, the wastewater is settled and then discharged to a settling tank where the activated sludge settles. Sludge is then pumped to the aerobic sludge holding tank or to the sludge storage pond. The settling tank provides clarification of the wastewater by gravity separation. The wastestream is next discharged by gravity into chlorine contact basin serpentine channels where the disinfection process occurs with sodium hypochlorite.

The fully treated and disinfected effluent is discharged into the rapid infiltration basins for disposal. Future reuse water will be directed to the adjacent agricultural fields for irrigation or is available for dust control and construction water. A draft line from the chlorine contact basin supplies a hydrant for fire fighting at the facility.

Flow

The new permitted 30-Day average daily flow has been set at 0.250 MGD upon completion of construction.

Receiving Water Characteristics

Depth to groundwater near the plant site is approximately 9 - 10 feet below ground surface and is potable.

Groundwater samples are collected and analyzed quarterly from multiple monitoring wells for the presence of nitrate, total nitrogen, chlorides and total dissolved solids.

Procedures for Public Comment

The Notice of the Division's intent to modify this permit authorizing the facility to discharge to groundwaters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Mason Valley News** and the **Nevada Appeal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination

The Division has made the tentative determination to modify the permit.

Proposed Effluent Limitations, Schedule of Compliance and Special Conditions

PARAMETERS	DISCHARGE LIMITATIONS 30-day Ave.	Daily Max	MONITORING REQUIREMENTS Measurement Frequency
FLOW:			
Influent:	0.250 MGD	0.750 MGD	Continuous
Effluent:			
Outfall 001	Monitor & Report	Monitor & Report	Continuous
Outfall 002	Monitor & Report	Monitor & Report	meter
Outfall 003	Monitor & Record Each Load		Calaculate
Sludge Pond:	Monitor & Report		Continuous
BOD_5:			
Influent:	Monitor & Report	Monitor & Report	Monthly
Effluent:	30 mg/l	45 mg/l	Monthly
TSS:			
Influent:	Monitor & Report	Monitor & Report	Monthly
Effluent:	30 mg/l	45 mg/l	Monthly
Plant Effluent Discharge:			
Nitrate as N:	Monitor & Report	Monitor & Report	Monthly
Nitrogen as N:	10 mg/l	Monitor & Report	Monthly
Ammonia as N:	Monitor & Report		Monthly
pH:	Between 6.0 and 9.0 SU		Monthly
Fecal Coliform:	2.2CFU/100 ml	23CFU/100 ml	Monthly
Chlorine Residual:	Monitor, Record & log		Daily
T Phosphorus as P:	Monitor & Report		Monthly

MGD = million gallons per day; ml = milliliters; Mg/l = milligrams per liter; CFU = colony forming units

Monitoring Well Sampling Requirements

MONITORING WELL #1-5 and any future wells installed PARAMETERS		Frequency
TOTAL DISSOLVED SOLIDS:	Monitor and Report	Quarterly
NITRATE as N:	See Part I.A.15, 10 mg/l	Quarterly
TOTAL NITROGEN as N:	Monitor and Report	Quarterly

CHLORIDE:	Monitor and Report	Quarterly
GROUNDWATER ELEVATION:	Monitor and Report	Quarterly
DEPTH TO GROUNDWATER:	Monitor and Report	Quarterly

Schedule of Compliance, Special Conditions:

1. Revised sections of the Operations and Maintenance Manual (O & M) shall be submitted no later than 6 months after plant start up. It shall contain any revisions to both the Sludge Management Plan and the Groundwater Monitoring Plan.

There are no special conditions.

Rationale for Permit Requirements

Effluent monitoring is required to assess the level of treatment being provided and to determine when design capacity is being approached.

Groundwater monitoring is required to ensure that operations of the facility do not degrade groundwaters of the State.

Prepared by: Icyl C. Mulligan
September, 2003

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